

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 17 July 2001 (17.07.01)	Applicant's or agent's file reference PU3703WO
International application No. PCT/US00/28218	Priority date (day/month/year) 15 October 1999 (15.10.99)
International filing date (day/month/year) 12 October 2000 (12.10.00)	
Applicant ANDERSON, Joanne, Elizabeth et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 18 April 2001 (18.04.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer F. Baechler Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

LEVY, David, J.
GlaxoSmithKline
Five Moore Drive
Research Triangle Park, NC 27709
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 07 March 2002 (07.03.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference PU3703WO	
International application No. PCT/US00/28218	International filing date (day/month/year) 12 October 2000 (12.10.00)

1. The following indications appeared on record concerning:

☒ the applicant ☒ the inventor ☐ the agent ☐ the common representative

Name and Address ANDERSON, Joanne, Elizabeth Glaxo Wellcome Inc. Five Moore Drive P.O. Box 13398 Research Triangle Park, NC 27709 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☐ the name ☒ the address ☐ the nationality ☐ the residence

Name and Address ANDERSON, Joanne, Elizabeth GlaxoSmithKline Five Moore Drive P.O. Box 13398 Research Triangle Park, NC 27709 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Athina NICKITAS-ETIENNE Telephone No.: (41-22) 338.83.38
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NOTIFICATION OF THE RECORDING
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Date of mailing (day/month/year) 07 March 2002 (07.03.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference PU3703WO	
International application No. PCT/US00/28218	International filing date (day/month/year) 12 October 2000 (12.10.00)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent
<input type="checkbox"/> the common representative		
Name and Address WALKER, Dwight, Sherod Glaxo Wellcome Inc. Five Moore Drive P.O. Box 13398 Research Triangle Park, NC 27709 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input checked="" type="checkbox"/> the address
<input type="checkbox"/> the nationality		
<input type="checkbox"/> the residence		
Name and Address WALKER, Dwight, Sherod GlaxoSmithKline Five Moore Drive P.O. Box 13398 Research Triangle Park, NC 27709 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
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<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Athina NICKITAS-ETIENNE Telephone No.: (41-22) 338.83.38
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Applicant's or agent's file reference PU3703WO	
International application No. PCT/US00/28218	International filing date (day/month/year) 12 October 2000 (12.10.00)

1. The following indications appeared on record concerning:

☒ the applicant ☒ the inventor ☐ the agent ☐ the common representative

Name and Address TARCZYNSKI, Frank, Joseph Glaxo Wellcome Inc. Five Moore Drive P.O. Box 13398 Research Triangle Park, NC 27709 United States of America	State of Nationality US	State of Residence US
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	Facsimile No.	
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	Telephone No.	
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☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☒ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Athina NICKITAS-ETIENNE Telephone No.: (41-22) 338.83.38
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Published:

-- with international search report

(88) Date of publication of the international search report:

29 November 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

GRASSLER, Frank P.
GLAXOSMITHKLINE
Five Moore Drive
Research Triangle Park
North Carolina 27709
ETATS-UNIS D'AMERIQUE

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year)

02.01.2002

Applicant's or agent's file reference
PU3703WO

IMPORTANT NOTIFICATION

International application No.
PCT/US00/28218

International filing date (day/month/year)
12/10/2000

Priority date (day/month/year)
15/10/1999

Applicant

GLAXO GROUP LIMITED et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

 European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer

Weber, R

Tel. +49 89 2399-2382



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference PU3703WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/28218	International filing date (day/month/year) 12/10/2000	Priority date (day/month/year) 15/10/1999	
International Patent Classification (IPC) or national classification and IPC G01N21/55			
Applicant GLAXO GROUP LIMITED et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 8 sheets, including this cover sheet.
 - ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 18/04/2001	Date of completion of this report 02.01.2002
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Stuebner, B Telephone No. +49 89 2399 2179 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/28218

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-16 as originally filed

Claims, No.:

1-39 as originally filed

Drawings, sheets:

1/11-11/11 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/28218

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
☒ paid additional fees.
☐ paid additional fees under protest.
☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
☒ not complied with for the following reasons:
see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.
☐ the parts relating to claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 1-32,34-39
 No: Claims 33

Inventive step (IS) Yes: Claims
 No: Claims 1-39

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/28218

Industrial applicability (IA) Yes: Claims 1-39
 No: Claims

2. Citations and explanations
 see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

Re Item IV

Lack of unity of invention

1. The separate groups of invention are:
 - 1.1 Independent Claim 1: Method for monitoring a solid phase chemical reaction...contacting an **attenuated total reflection** element to said reaction chamber...; and
independent Claims 14/22: Apparatus/method for generating a solid phase combinatorial library... (the apparatus) comprising...an **attenuated total reflection** element operatively associated with said chemical synthesis robot...; and
the corresponding dependent claims.
 - 1.2 Independent Claim 33: In a method of making a combinatorial library comprising at least 100 different compounds....; and
the correspondent dependent claims.

These groups are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

Independent Claim 33 does not disclose an "attenuated total reflection", which according to the description and to the preceding independent claims is regarded to be the common concept of the invention.

Thus, when the common concept is missing, the last independent claim lacks unity with regard to the first group of the invention.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2. The following documents (D) are referred to in this report:

D1: US-A-5565324

D2: BIRNBAUM S ET AL: 'PEPTIDE SCREENING' CURRENT OPINION IN BIOTECHNOLOGY, GB, LONDON, vol. 3, 1992, pages 49-54

D3: WO-A-9904228

D4: US-A- 4582809

D5: US-A- 5313264

D6: WO-A- 9419694

D7: US-A- 5942387

D8: US-A- 5780603

FIRST INVENTION:

3. In D1 (see e.g. abstract) a method for monitoring a solid phase chemical reaction, said method comprising the steps of providing a reaction mixture comprising a solid support and a liquid reaction medium and monitoring said chemical reaction on said solid support.

Claim 1 differs therefrom in that the step of monitoring is carried out by attenuated total reflection spectroscopy using a corresponding total reflection element.

However, to use attenuated total reflection instead of e.g. chromatography or mass spectrometry as according to D1 is a well known method in this field; see e.g. D3, page 1, l.21 to p.4, l.5 and claims 63, 83 and 84 or D4, col.3, l.64 to col.5, l.11, col.6, l.14-51 and Figures 1 and 2.

Thus, the skilled person looking "for new techniques for monitoring solid phase synthesis reactions" (see p.2, ll.10, 11 of the application) would at least be tempted to apply this new technique according to D3 or D4 to the method of D1.

The subject-matter of Claim 1 therefore does not involve an inventive step.

4. In D1 (see e.g. col.4, l.66 to col.5, l.64) an apparatus is described comprising features corresponding to Claim 14,
i.e. an apparatus for generating a solid phase combinatorial library, said apparatus comprising:
(implicitly) a chemical synthesis robot configured to receive a plurality of reaction

wells; and
(explicitly) a reagent repository (operatively associated with said chemical synthesis robot).

Claim 14 differs from D1 in
a) an attenuated total reflection element and an attenuated total reflection monitor; and
b) a synthesis controller.

As indicated above, features a) are obvious from D3.
Furthermore, in order to control the construction of a solid phase combinatorial library such a very generally disclosed "synthesis controller" is regarded to be a normal design possibility.

Thus, in view of the paragraphs above, the skilled person would regard it a normal design procedure to combine all the features set out in Claim 14. Therefore, the subject-matter of Claim 14 does not involve an inventive step and does not satisfy the criterion set forth in Article 33(3) PCT.

5. For similar reasons also independent method Claim 22 does not involve an inventive step.

It should be noted that the repeating of the steps a) to c) of Claim 22 is a normal procedure in this field.

Finally, also in the dependent Claims 2-13, 15-21 and 23-32 only slight (constructional) changes are suggested which come within the scope of the customary practice (see also the Search Report) followed by persons skilled in the art, especially as the advantages thus achieved can be readily contemplated in advance. Consequently, the subject-matter of these claims also appears to lack an inventive step.

SECOND INVENTION:

6. In D7 (see e.g. col.19, l.34 to col.20, l.34; Fig.1, 2) a method is described comprising all essential features according to Claim 33.
Also the disclosure of D8 (see col.2, ll.55-67; col.11, l.66 to col.12, l.33; col.16, l.46 to col.18, l.20) corresponds to that of Claim 33.

Thus, Claim 33 lacks novelty.

7. Dependent Claims 34-39 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the EPC with respect to novelty and inventive step.

Re Item VII

Certain defects in the international application

If, in spite of the above-mentioned objections, the applicant wishes to proceed further in the regional phase, the following additional points should be noted, i.e. the corresponding amendments provided:

- 8.1 Documents D1 to D8 should be mentioned and their contents briefly commented on in the introductory part of the description.
- 8.2 The introductory part of the description should contain statements agreeing with any independent claim submitted.
- 8.3 Any new independent claim should be submitted in the two-part form set out in Rule 6.3 (b) PCT.
- 8.4 In the new set of claims reference signs should be inserted in brackets following those features which are so numbered in the figures (Rule 6.2 (b) PCT).
- 8.5 If new features are taken into the claims, Article 19 (2) of the PCT should not be infringed and it would probably accelerate the examining process if it were indicated from which part of the application any such features are taken.